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IT Standards Mgmt Process & Practice for DoD Acquisitions

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IT Standards Mgmt Process & Practice Overview Topics

- **Management processes for selection and Prescription of IT Standards**
- **Standards Compliance in the Acquisition process**
- **GIG Technical Guidance & IT Standards Architectural Relationship**
- **Aligning standards management process and practice to enable efficiencies in IT Acquisition**

DoD IT Standards Policies

- USC Title 10, sec 2223(a)(3) directs the DCIO to ensure that information technology and national security systems standards that will apply throughout the Department of Defense are prescribed

- Defense Acquisition System requires compliance with commercial standards
  (SecDef Perry Memo (1997) directed wholesale transition to non-government standards and performance specifications (Ex: ANSI, ITU, IEEE, IETF, W3C)

- DoD Instruction (DoDI) 4630.8
  - Implements a Capability-Focused Approach to IT and NSS Interoperability and Supportability throughout DoD for Acquisitions and Procurements (Cites DoD IT Standards Registry (DISR), GIG Key Interface Profiles (KIPS) (transitioned to GTPs))

- Chairman of the Joint Chiefs of Staff Manual (CJCSM) 3170.01B
  - Guidelines and Procedures for Operation of the Joint Capabilities Integration and Development System (JCIDS) Regarding the Development and Staffing of JCIDS Documents (TV-1 and TV-2 Created in DISRonline).

- Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6212.01F (new!)
  - NR-KPP Requirement for GTG-F DISR resource use to built StdV-1, StdV-2 architectural artifacts.

DoD Standards Preference Hierarchy

Priority	Standards Source Hierarchy	Example
1st	International	ISO, IEC, ITU
2nd	National	ANSI
3rd	Professional Society; Technology Consortia; Industry Association	IEEE; IETF; W3C; OASIS; GEIA
4th	Government	FIPS
5th	Military	MIL-STDS, STANAGS

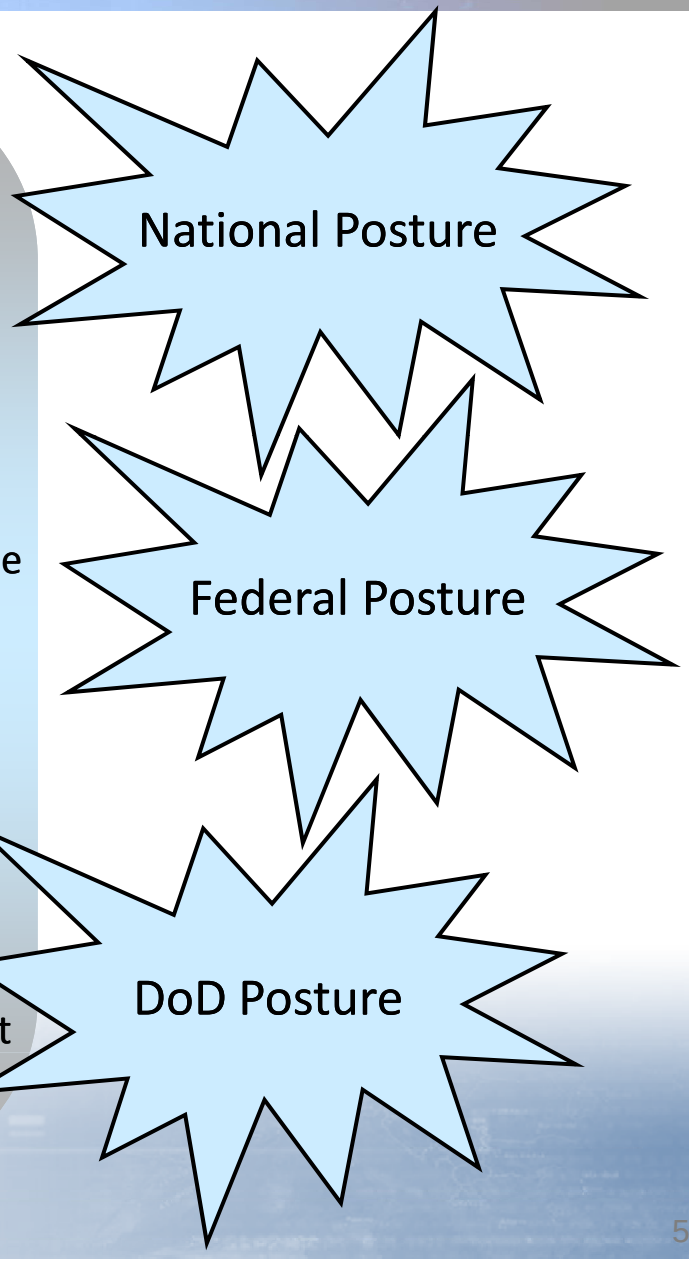
These rankings determine which standardization paths available for consideration will provide the best mechanism for the development, adoption and publishing of the IT standards needed by DoD

Commercially Available IT Standards

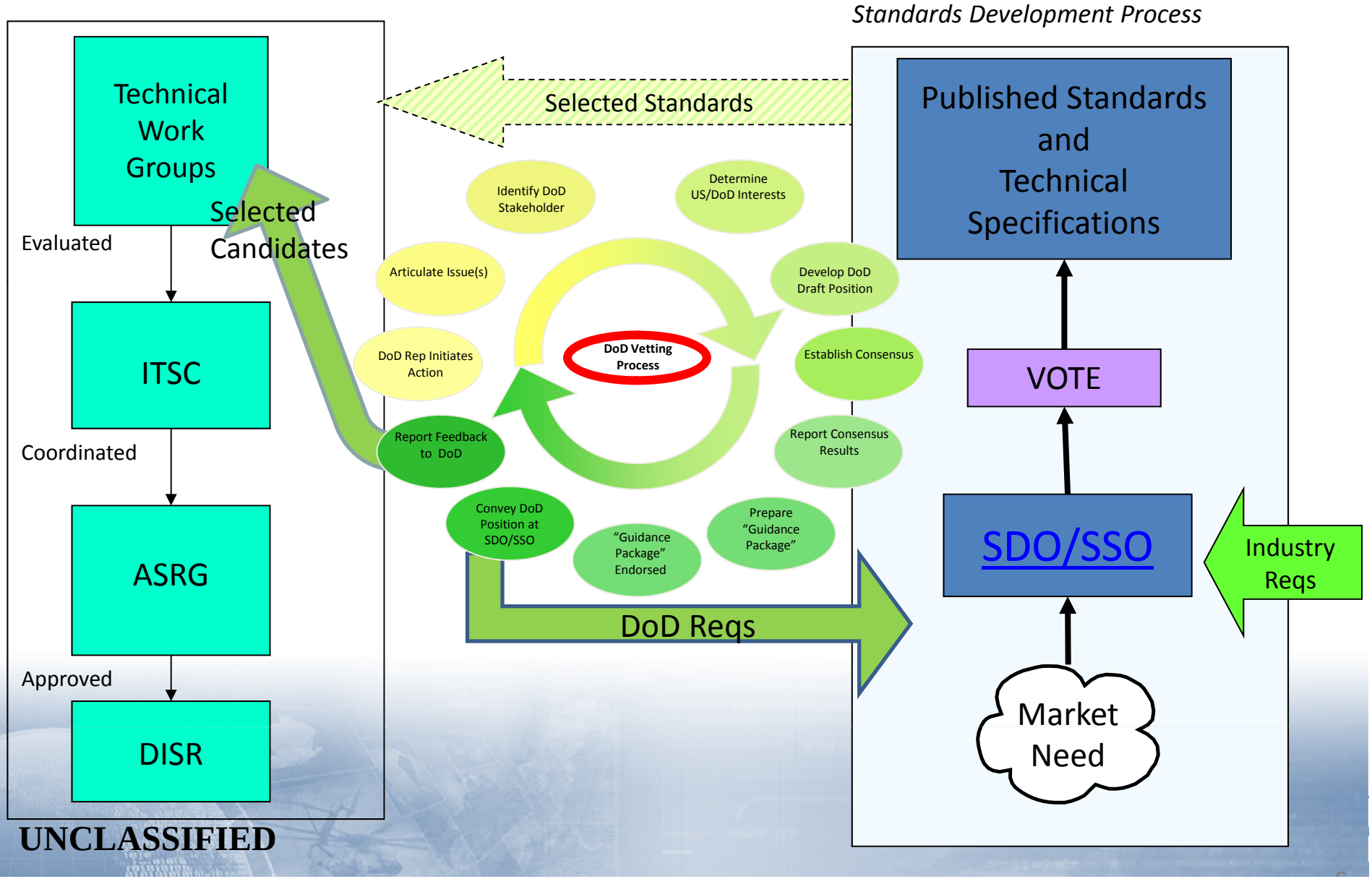
- The United States National Standards Strategy developed by the American National Standards Institute (ANSI) encourages the reliance on a voluntary, consensus-based process to develop market-endorsed open standards that specifically to meet DoD needs.

- By established public law, judicial precedent and extant policy, the U.S. Federal government prefers using consensus-based open products from a formally recognized SDO/SSO – a body/organization which produces and distributes formal or *de jure, accredited, publicly available, open standards.*

- DoD has a longstanding, established hierarchy of preference for selecting standards based on their source. Note that the 5th Priority, Military, has its own internal priority of international first and then DoD Military Standards.



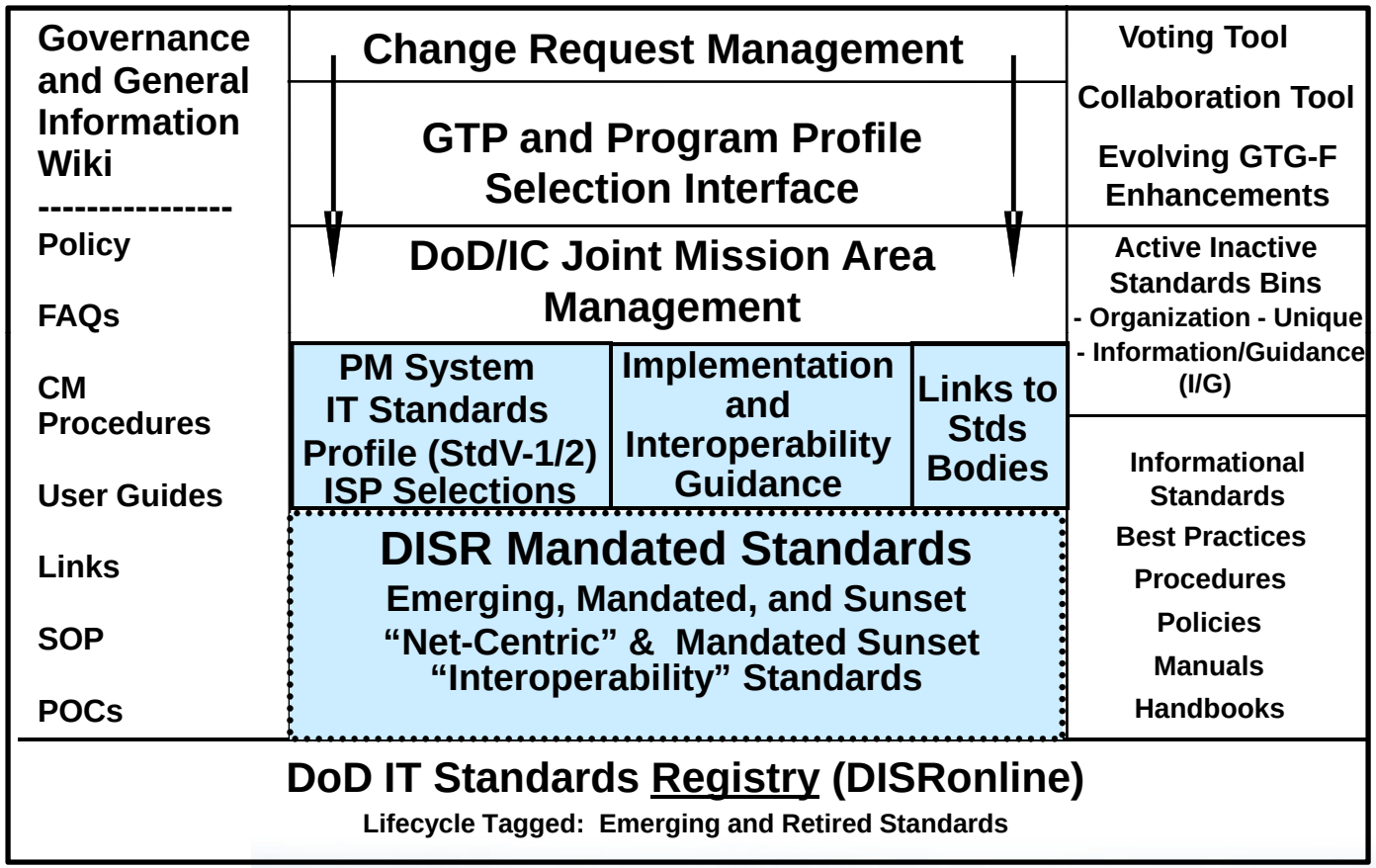
Standards: From Idea to DISR



DISR Commercial Open Standards Selection Criteria

- Source of the standard
  - Recognized authority
  - Cooperative stance
  - Feedback
  - Process
  - Consensus
- Openness
  - Ownership
  - Control, intellectual property right
  - User participation
  - Vendor participation
- Technology relevance
  - Applicability to DoD objectives
- Maturity
  - Planning horizon
  - Stability
  - Revision content and schedule
- Marketplace support
  - Acceptance
  - Commercial viability
- Usefulness/utility
  - Well-defined quality attributes
  - Services and application interoperability
- Risk Issues regarding performance
  - maturity, and stability

DoD IT Standards Registry (DISR) Overview Today

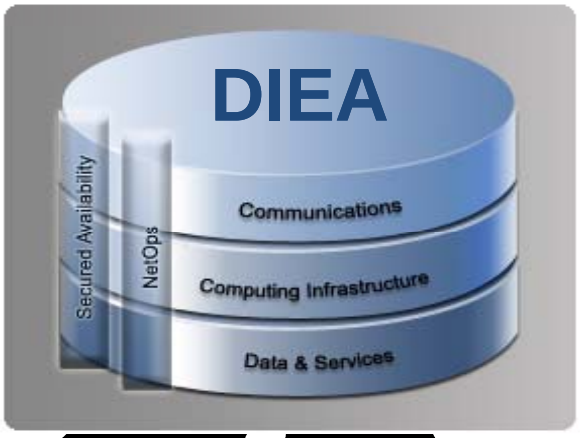


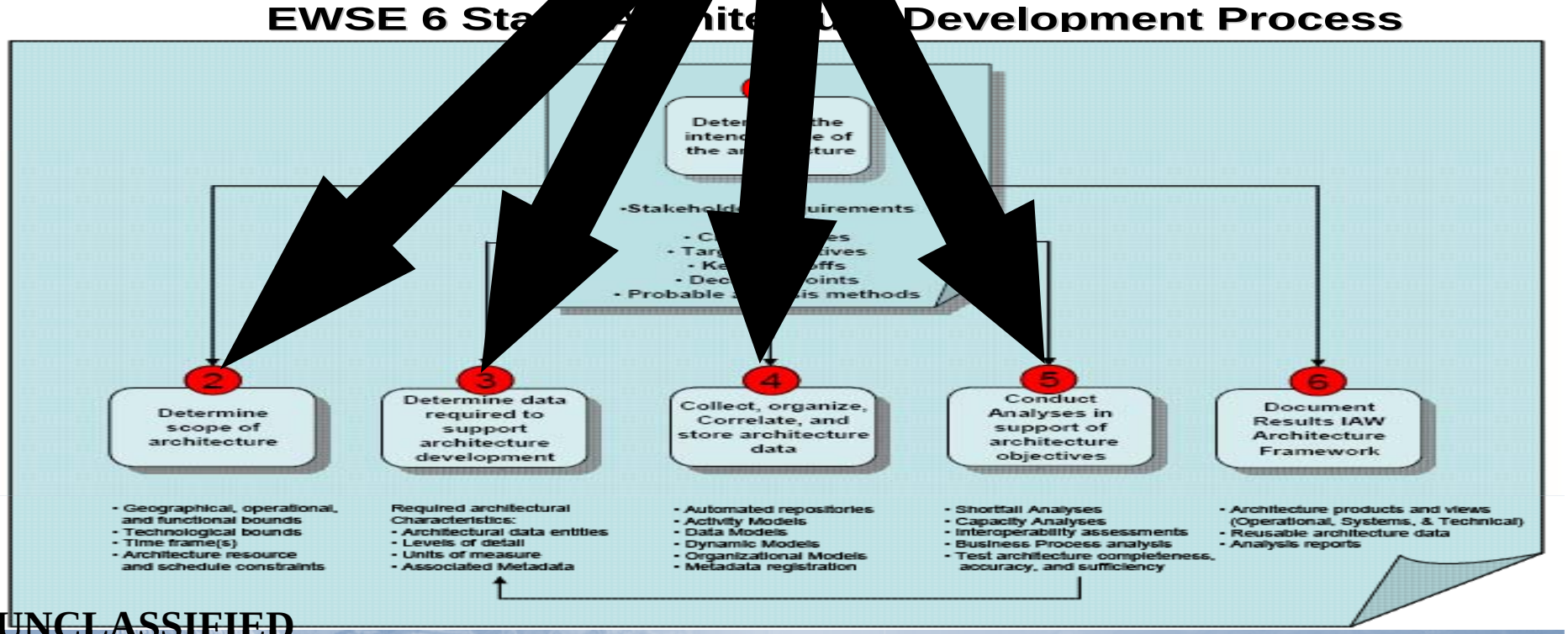
Objectives:

- Champions DoD CIO's Re-Engagement of the IT Standards Communities
- GTG Federation Includes IT Standards Registry Universal Reference Resource
- Tri-Annual Update of IT Standards Registry
- Tied to DoD CIO IT Standards Conformance and Compliance Process
- Intelligence Community Cross Coordination (ICSR/ER2)
- Improves DoD Visibility and Participation in IT Standards Development Organizations
- Synchronized with GTPs To Facilitate Standards Profiles Development (StdV-1/2)
- Standing IT Standards Working Groups Aligned to DoD Information Enterprise

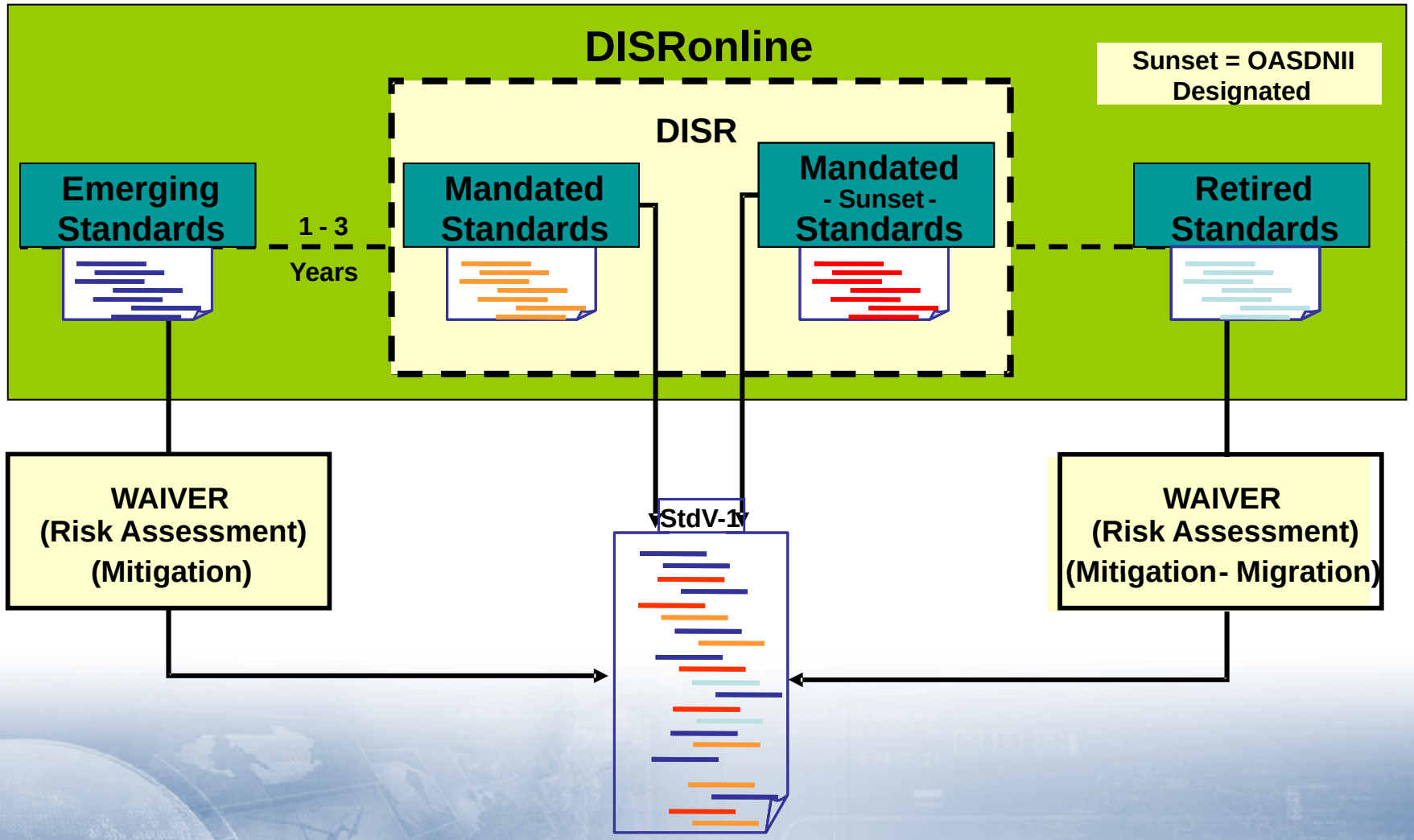
DISR Architectural Relevance

The DoD Information Enterprise Architecture forms the baseline principles for standards applicability and guidance for DoD Programs





DISR Architectural Relevance



DISRonline

Sunset = OA
Designat

DISR

Emerging Standards

1 - 3 Years

Mandated Standards

Mandated - Sunset - Standards

Retir
Standa

required

WAIVER
(Risk Assessment)
(Mitigation)

StdV-1

WAIVER
(Risk Assessr
(Mitigation - Mig

DoD…..

The necessary me[illegible]
for architectural analysis
of standards for
implementation and
applicability is enabled
through the GTG
Federation

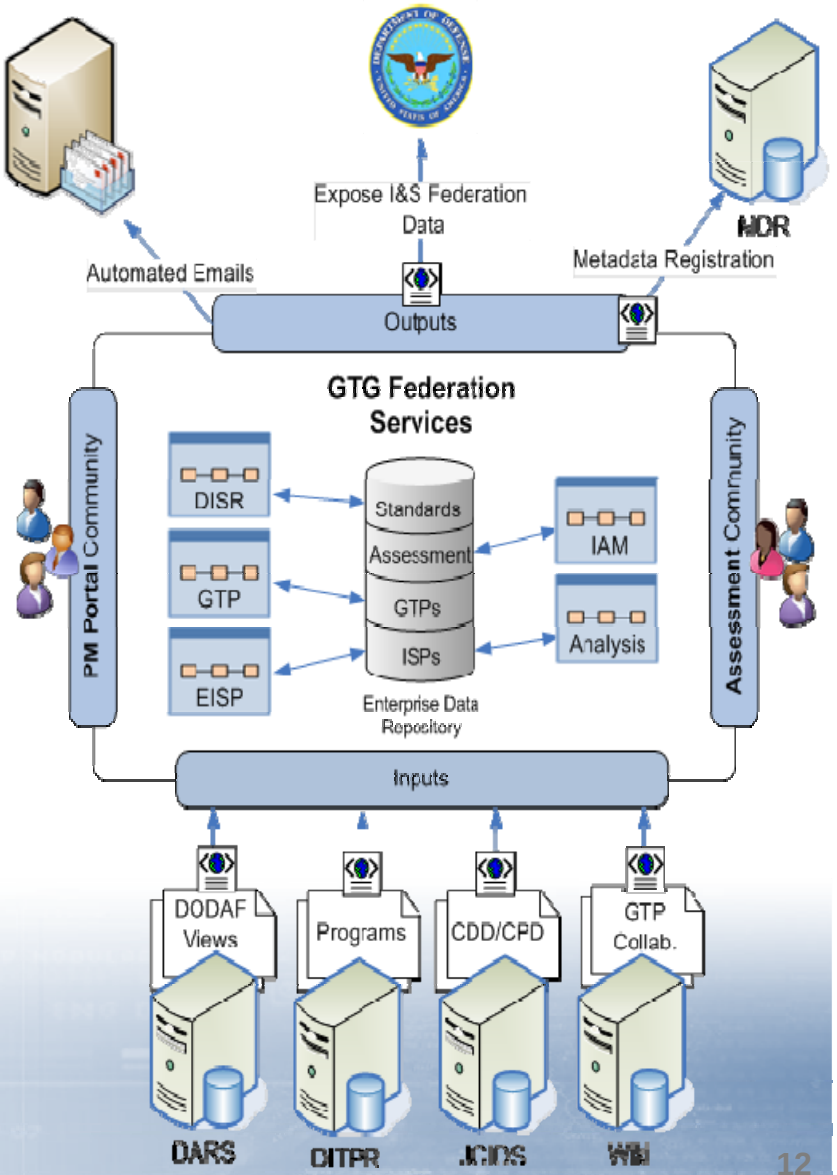
Document/ Architecture[5]	AV-1	AV-2	CV-1	CV-2	CV-3	CV-4	CV-5	CV-6	DIV-1	DIV-2 (OV-7)	DIV-3 (SV-11)	OV-1	OV-2	OV-3	OV-4	OV-5a	OV-5b	OV-6a	OV-6c	PV-2	SV-1 or SvcV-1	SV-2 or SvcV-2	SV-4 or SvcV-4	SV-5a or SvcV-5	SV-6 or SvcV-6	SV-7 or SVcV-7[6]	SvcV-10a	SvcV-10b	SvcV-10c	StdV-1 [TV-1]	StdV-2 [TV-2]
DCR	R[1]		R	R	R	R						R														R					
CONOPS	R[1]		R	R	R	R		R				R	R		R	R										R					
ICD	X[1]	X	R	R	R	R		R				X	X		X	X	O									R					
CDD	X[1]	X	X	X	X	X	X	X		X		X	X	X	X	X	X		X	X	X	X	X	X	X	X				X[2]	X[2]
CPD	X[1]	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X				X[2]	X[2]
IC[3, 4]	X	X	X	X			X		X	X		X	X	X		X	X	X	X		X	X	X	X	X		X	X	X	X	X

Legend	X - Required O - Optional R- Recommended, PM needs to check with their Component for any additional architectural/regulatory requirements for CDDs, CPDs. (e.g., HQDA requires the SV-10c, USMC requires the SV-3, IC requires the SvcV-10a and SvcV-8)
Note 1	The AV-1 must be registered, must be "public" and "released" at the lowest classification level possible in DARS for compliance.
Note 2	The technical portion of the StdV-1 and StdV-2 are built using GTG-F DISR standards profiling resources and, within six months of submitting JCIDS documentation, must be current and published for compliance. Use of non-mandated DISR standards in the StdV-1 must be approved by the PM or other duly designated Component cognizant official and documented by a waiver notification provided to the DoD CIO.*
Note 3	Intelligence Community (IC) requirements IAW the IC Enterprise Architecture Program Architecture Guide and development phase which clarifies the IC Policy Guidance 801.1 Acquisition.
Note 4	Service Views (SvcV) only
Note 5	1. The Sponsor* and the Program are jointly responsible for the AV-1, AV-2, CV-1, CV-2, CV-3, CV-4, CV-5, CV6, SV-6 or SvcV-7. 2. The Sponsor* is responsible for the development of the architecture data for the OV-1, OV-2, OV-4, OV-5a, OV6c, DIV-2, and the SV-6 or SvcV-6. 3. The Program is responsible for the development of the architecture data for the DIV-1, DIV-3, OV-3, OV-5b, OV-6a, PV-2, SV-1 or SvcV-1, SV-2 or SvcV-2, SV-4 or SvcV-4, SV-5a or SvcV-5, SvcV-10a, SvcV-10b, SvcV-10c, StdV-1, and StdV-2. * Operational user (or representative).
Note 6	The NR-KPP Measures data is captured in the SV-7 or the SvcV-7.

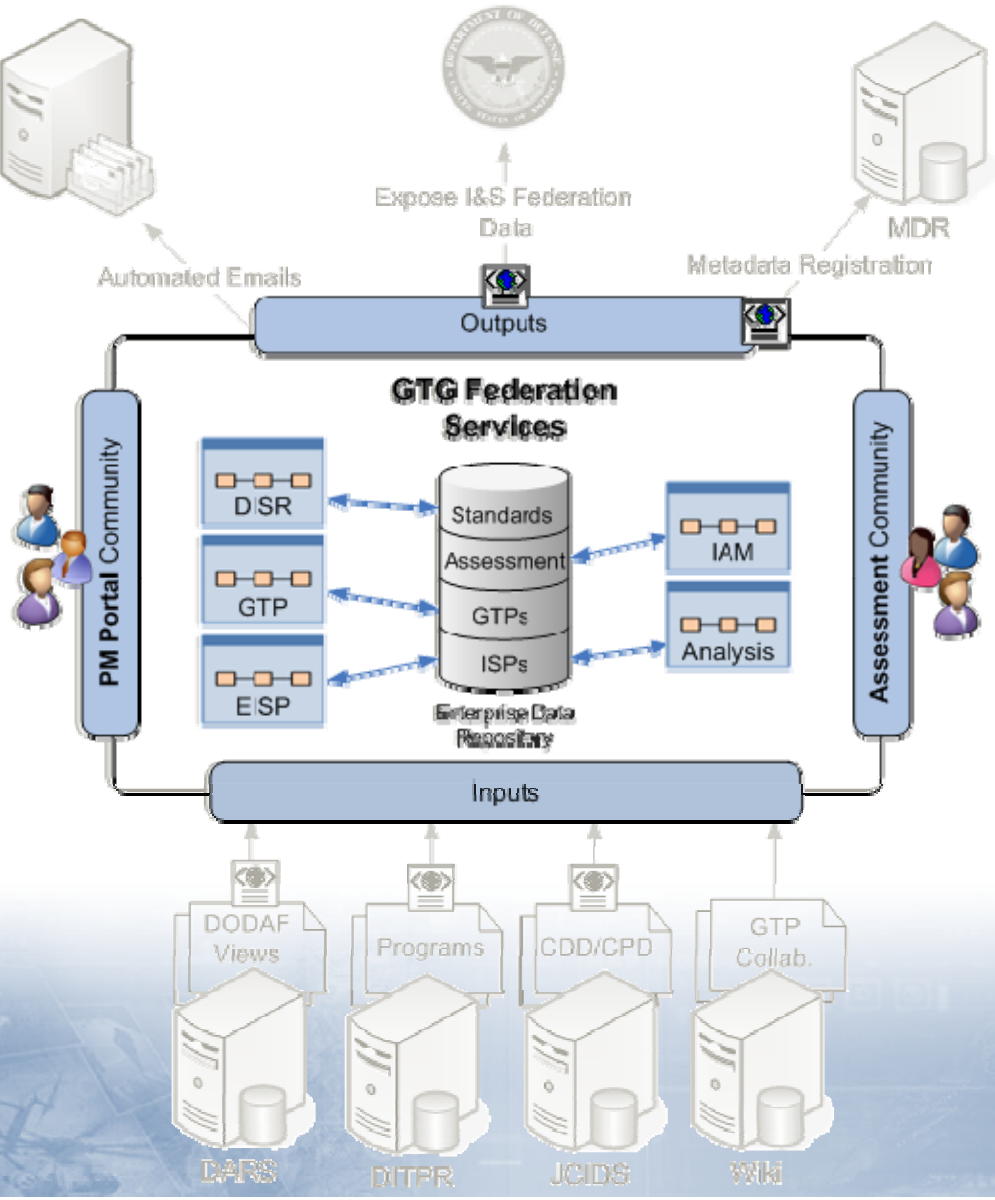
Source: 6212.01F

GTG-Federation (GTG-F) Overview

- Program Management (PM) Portal Service
  - **Supports unclassified ISP/TISP data submissions for review on the NIPR per the recent DoD CIO memo**
  - **Allows PMs the ability to assign roles to other program stakeholders**
  - **Visibility into comments allow the ability to instantly respond/adjudicate**
  - **Integration via web service with DITPR for quick program profile registration**
  - **Business processes are scalable and can be quickly updated**
  - **Transitions development, submission and review process from document to data-centric**
- Enhanced Information Support Plan (EISP) Enterprise Service Version (ESV)
  - **Turbo Tax®-like web application which collects only the valuable data required for ISPs**
  - **Allows for automatic import of information, reducing time and cost to produce ISPs**
  - **The EISP reduces development costs through the reuse of information between programs**
  - **The EISP reduces development time through automatic import of information**
  - **The EISP standardizes and organizes ISP requirements to facilitate analysis**
- DISR
  - **Repository of Information Related to DoD IT and NSS Standards**
  - **DoD CIO-Prescribed Standards Profiles Mandated for Use Across DoD (e.g., IPv6, GIG KIPs)**
  - **Non-Mandated Reference Information Provided for Use by the Acquisition Community**
- GIG Technical Profile (GTP) Service
  - **Step by step walkthrough questionnaire determines GTPs for programs**
  - **DISR synchronization to create standards views/publish profiles**
- Integrated Assessment Module (IAM) Service
  - **Auto-staffing determines organizations and dates rather than performing manual calculations each time**
  - **On-screen data views allows quick access to only pertinent sections of the ISP per assessor/internal organization**
  - **Increased quality through warnings and notifications during assessment**
  - **Provides an automated process for staffing, providing comments, and adjudicating issues**
  - **PMs can adjudicate comments in real time to reduce the review and approval timelines**



PM Portal Workflow



Principles Guiding A New Approach for Delivering Information Technology Capabilities in the DoD

Source: Nov 2010 OSD report to Congress Pursuant to the National Defense Authorization Act for Fiscal Year 2010

- **Deliver Early and Often:** establish an environment that supports deployed capabilities every 12 to 18 months
  - ✓ ***DISR Baseline review cycles identify new and emerging technologies that are evaluated annually for emerging standards and every three years for Mandated standards***

- **Incremental and Iterative Development and Testing:** incremental and iterative development and testing, including the use of prototyping, yield better outcomes than trying to deploy large complex IT network systems in one "Big Bang."

- **Rationalized Requirements:** users and requirements developers are to embrace an enterprise focus across a portfolio of capabilities with established standards and open modular platforms vice customized solutions to ensure interoperability and seamless integration
  - ✓ ***Unified Capabilities Requirements specify Commercial Vendor build-to/test-to specs for DISR Standards compliance and APL certification for DoD Networks (http://www.disa.mil/ucco/apl_process.html?panel=1#A_Services)***
  - ✓ ***GTPs profile DISR standard implementation and guidance to characterize Enterprise Wide Systems Engineering Solutions (https://www.intelink.gov/wiki/Portal:GIG_Technical_Guidance)***

- **Flexible/Tailored Processes:** based on principles acknowledging unique types of IT acquisition and embracing flexible and tailored—and risk-appropriate—IT paths based on the characteristics of the proposed IT acquisition
  - ✓ ***Fully tailorable fit for use DoDAF 2.0 architectural representations guide the implementation of standards profiles characterizing enterprise portfolio capabilities***

- **Knowledgeable and Experienced IT Workforce:** a top priority is to establish a cadre of trained professionals

Strategic Intent for New IT Acquisition Approach

Source: Nov 2010 OSD report to Congress Pursuant to the National Defense Authorization Act for Fiscal Year 2010

Short Duration projects: Major traditional program phases, milestones, and accompanying program reviews will be restructured or replaced and will include refashioned milestone reviews conducted more frequently as in-process reviews at key decision points within the integrated governance structure.

IT Systems Engineering:

- Disaggregates large-scale information capabilities into a number of smaller integrated projects that embrace established standards and open modular platforms to ensure interoperability and seamless integration.
- New emphasis on architecting modular open-system enterprise solutions to ensure proper integration and interoperability continuously throughout the life cycle of networks/systems and services.
- Integrates project level, systems engineering with the overall enterprise-level systems engineering approaches tailored to project risk and the category of information system being procured or developed.

Common IT Infrastructures:

- Use of non-proprietary interfaces will be emphasized.
- Enable DoD information capability projects to take advantage of the benefits of agile development methods and rapidly field capabilities that use state-of-the-practice commercial products, while simultaneously lowering risk
- Emulate commercial IT business models which enables development of modular applications that can be rapidly deployed to reduce time to field new capabilities, increase competition, foster innovation, reduce application development costs, and establish a capability pipeline for future development

Strategic Intent for New IT Acquisition Approach

Source: Nov 2010 OSD report to Congress Pursuant to the National Defense Authorization Act for Fiscal Year 2010

Selected Areas for Meeting the Strategic Intent:

- Requirements will be documented, prioritized, and traceable with clear linkages to performance-based metrics, statute, or policies, consistent with the pace of technological change, and will involve an ongoing dialogue between the system developers and the warfighters/end users. Requirements will include Doctrine, Organization, Training, Materiel, Leadership, People, and Facilities (DOTMLPF).

✓ ***GTG Federation is enabling a Data-Centric environment supporting development and assessment of IT requirements and associated linkages to architecture and standards guidance***

- Emphasis will be placed on architecture compliance, standardized information definitions, and rationalized performance requirements.

✓ ***GTPs provide standards implementation guidance that links Program-specific DoDAF Standards views to enterprise wide systems engineering solutions***

- Today's traditional paper-based documentation will be consolidated into fewer planning, execution, and reporting documents and replaced to the maximum extent possible with on-line tools that increase transparency and collaboration.

✓ ***The GTG Federation is deploying a Data-Centric capability that provides the capacity to develop JCIDS and ISP documentation requirements as XML data artifacts which speeds analysis of the standards implementation and compliance certification***

- Outreach to industry will be conducted to gain insight into commercially driven industry trends.

✓ ***DoD active participation in Standards Development and Standards Setting Bodies provides the opportunity influence industry decisions in a way that enables greater attention to DoD IT requirements***

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Summary

- DoD is committed to Commercial Standards and Architecture Practices
- Standards and Architectures will continue to move toward greater seamlessness in its federated information and resources:
  - An enterprise data repository and “Virtual ISP” tool:
    - Makes standards and architecture data visible to programs and assessors
    - Tailors technical documentation for specific programs
    - Enables one-stop, web-enabled, super-support mechanism for finding and complying with GIG Technical Documentation
  - Net-centric requirements and compliance citations resident in program data, instead of in separate sets of documents
  - Compliance and assessment now more efficient
    - Remove paper from process and develop data-centric ISP
    - Enter program data information only once
    - Facilitate ISP/NR-KPP technical compliance from an architectural perspective

Links and PoCs

- **GTG Wiki Page:**
  - **https://www.intelink.gov/wiki/Portal:GIG_Technical_Guidance**
- **GTG Federation:**
  - **https://gtg.csd.disa.mil**
- **EISP Management Support:**
  - **Mr. Nick Bruno, Booz Allen Hamilton, bruno_nicolas@bah.com, 703-412-7560**
- **GTG Management Support:**
  - **Ms. Lyla Moldover, Booz Allen Hamilton, moldover_lyla@bah.com, 703-377-4862**

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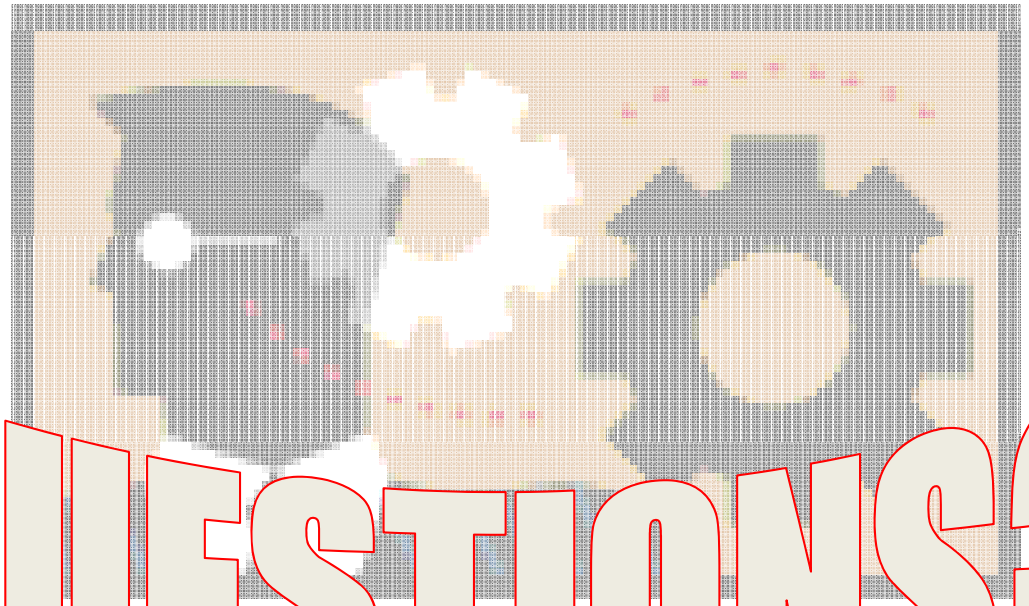

QUESTIONS?